Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1 – (currently amended) Broadband monopole antenna, comprising a radiating element mounted on an earth plane forming support of annular shape, wherein the radiating element is constituted by a hollow element having a "cup" shape integral with the earth plane forming support, said radiating element and said support being made on the basis of a metallizable plastic or foam, the external profile of the "cup"-shaped radiating element being given by the following equations:

~~For 1.3<t<4.075~~

$$x(t) = 8 + 1.9 * t * Cos\,(t - 7)$$

$$z(t) = 2.5 + 12.5\frac{Sin(t)}{t}$$

with t being a number varying between 1.3 and 4.075 and coordinates (x(t),z(t)) representing points along the profile.

2 – (cancelled)

3 – (previously presented) Antenna according to Claim 1, wherein the earth plane forming support of annular shape consists of a circular annulus.

4 – (previously presented) Antenna according to Claim 3, wherein the external end of the annulus is inwardly curved in such a way as to form a semi-toroidal element.

5 – (currently amended) Process for manufacturing a broadband monopole antenna comprising radiating element constituted by a hollow element having a "cup" shape, said radiating element being mounted on an earth plane forming support, said process comprising a step of making the "cup"-shaped radiating element integral with the earth plane forming support by injection moulding of a plastic followed by a step of metallizing at least the exterior surface of the "cup"-shaped element and of the part forming earth plane, the profile of the "cup" shaped element being given by the following equations:

$$x(t) = 8 + 1.9 * t * Cos\ (t-7)$$

$$z(t) = 2.5 + 12.5 \frac{Sin(t)}{t}$$

with t being a number varying between 1.3 and 4.075 and coordinates (x(t),z(t)) representing points along the profile.

6 – (previously presented) Process according to Claim 5, wherein the metallization is achieved by vacuum spraying of the metal.

7 – (currently amended) Process for manufacturing a broadband monopole antenna comprising a radiating element constituted by a hollow element having a "cup" shape, said radiating element being mounted on an earth plane, comprising a step of making the "cup"-shaped radiating element integral with the earth plane forming support by machining a single block of metallizable foam followed by a step of metallizing at least the hollow surface of the "cup"-shaped element and of the part forming earth plane, the profile of the "cup" shaped element being given by the following equations:

$$x(t) = 8 + 1.9 * t * Cos\ (t-7)$$

$$z(t) = 2.5 + 12.5 \frac{Sin(t)}{t}$$

with t being a number varying between 1.3 and 4.075 and coordinates (x(t),z(t)) representing points along the profile.

8 – (previously presented) Process according to Claim 7, wherein the metallization is achieved by atomization of an electrically conducting paint.

9 – (previously presented) Process according to Claim 5, wherein the metallization is achieved by an electrochemical process.